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WHAT IS CLAIMED IS:

1. A shaping optical system for a laser bar layered product for shaping a laser beam from a laser bar layered product in which a plurality of laser bars, each of which is comprised of a plurality of semiconductor laser elements arrayed one-dimensionally, are layered along a direction which is perpendicular to both the array direction of said semiconductor laser elements and the laser beam traveling direction, comprising:
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- a refracting optical system,
- a first laser beam group being at one side of a boundary line,
- a second laser beam group being at the other side of the boundary line,
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- the boundary line being along said direction of layering,
- said second laser beam group being relatively shifted together with respect to said first laser beam group along the direction of said layering; and
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- a transmission/reflecting optical system, which transmits and reflects said first and second laser beam groups so that said shifted first and second laser beam groups align along said direction of layering.
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2. The shaping optical system for a laser bar layered product according to Claim 1, wherein said refracting optical system is comprised of plane parallel glass elements, of which a normal line exists in a plane including a traveling direction of at least one of said first and second laser beam groups and said direction of layering, and forms a predetermined angle with said traveling direction.

3. The shaping optical system for a laser bar layered product according to Claim 1, wherein said transmission/reflecting optical system further comprises a first reflecting element which reflects one of said first and second laser beam groups in a plane including said array direction and said traveling direction, and a second reflecting element to which the laser beam group reflected by said first reflecting element enters, wherein said second reflecting element is comprised of a reflecting area for reflecting one of said first and second laser beam groups and a transmission area for transmitting the other, which are alternately formed in stripes along said direction of layering.

4. The shaping optical system for a laser bar layered product according to Claim 3, wherein the length along said array direction of said transmission area is longer than the length along said array

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direction of the laser beam group which transmits the transmission area.

5. The shaping optical system for a laser bar layered product according to Claim 2, wherein said  
5 plane parallel glass element further comprises a first plane parallel glass plate which is used with a light transmission space, and is set such that one of said first and second laser beam groups which has a shorter optical path up to the emission position of said  
10 transmission/reflecting optical system transmits said first plane parallel glass plate, and the other which has a longer optical path transmits the light transmission space.

6. The shaping optical system for a laser bar  
15 layered product according to Claim 2, wherein said plane parallel glass element comprises a first plane parallel glass plate and a second plane parallel glass plate which is thicker than said first plane parallel glass plate, and is set such that one of said first and  
20 second laser beam groups which has a shorter optical path up to the emission position of said transmission/reflecting optical system transmits said second plane parallel glass plate, and the other which has a longer optical path transmits the first plane  
25 parallel glass plate.

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7. The shaping optical system for a laser bar layered product according to Claim 6, wherein said first and second plane parallel glass plates are integrated.

5           8. The shaping optical system for a laser bar layered product according to Claim 1, wherein said refracting optical system is a prism which relatively shifts at least one of said first and second laser beam groups together, with respect to the other, only in  
10       said direction of layering.

9. A laser light source comprising the shaping optical system for a laser bar layered product according to Claim 1, arranged on laser beam groups emitted from said laser bar layered product.

15           10. A laser light source comprising:

a laser-bar-stack emitting longitudinal laser beam patterns, the longitudinal laser beam patterns being aligned along the stack direction; and

20           means for distributing of the longitudinal laser beam patterns into a stepwise pattern; and

means for closing up each of the stepwise patterns along the longitudinal direction.

25           11. A shaping optical system for a laser bar layered product for shaping a laser beam from a laser bar layered product in which a plurality of laser bars, each of which is comprised of a plurality of

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semiconductor laser elements arrayed one-dimensionally,  
are layered along a direction which is perpendicular to  
both the array direction of said semiconductor laser  
elements and the laser beam traveling direction,  
5 comprising a optical member,

wherein a first laser beam group emitted from the  
laser bar layered product is at one side of a boundary  
line along said direction of layering, and a second  
laser beam group emitted from the laser bar layered  
10 product is on the other side of the boundary line,

wherein said optical member comprises a glass  
plate having parallel surfaces, one of said surfaces  
having stripe reflection films thereon, and the other  
of said surfaces having a partial reflection film  
15 thereon so that the second laser beam group travels  
along the layering direction relative to the first  
laser beam group, thereby first and second laser beam  
groups are emitted from the remaining region of the  
other surface.

20 12. A shaping optical system for a laser bar  
layered product for dividing and aligning laser beams  
from said product, said system comprising an optical  
member,

wherein said optical member comprises a glass  
25 plate having parallel surfaces, one of said surfaces  
having stripe reflection films thereon, and the other

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of said surfaces having a partial reflection film thereon,

wherein  $lx + my + nz = 0$  is the equation of said one of the surfaces, and  $lx + my + nz = D$  is the equation of the other of said surfaces when  $x, y, z$  orthogonal coordinate system is applied, and wherein said optical member satisfies following expression:

$$Y_1 \geq Y = \frac{2nmD(\beta-1)}{(n+E)}$$

$$E = \sqrt{n^{*2} - 1 + n^2} - n$$

$$\gamma = \arccos \frac{-ml}{\sqrt{m^2 + n^2} \sqrt{l^2 + n^2}}$$

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where,

$Y_1$ : the distance perpendicular to both of the longitudinal direction and the thickness direction of one reflection film of the stripe reflection films,

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$\gamma$ : the angle between the longitudinal direction of one reflection film of the stripe reflection films and the boundary line between the partial reflection film and the remaining region,

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$D$ : the thickness of the glass plate,

$n^*$ : the refractive index of the parallel glass plate,

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$\beta$ : the number of laser beams divided, the beam being emitted from one laser bar,

x: longitudinal direction of one of said laser bars,

5 y: layering direction of said laser bars, and

z: propagating direction of laser beam emitted from one of said the laser bars.

13. An optical member comprises a glass plate having parallel surfaces, one of said surfaces having stripe reflection films thereon, and the other of said  
10 surfaces having a reflection film thereon,

wherein  $lx + my + nz = 0$  is the equation of said one of the surfaces, and  $lx + my + nz = D$  is the equation of the other of said surfaces when x, y,

15 z orthogonal coordinate system is applied, and

wherein said optical member satisfies following expression:

$$\beta = \frac{Y1}{Y2} + 1$$

$$Y1 \geq Y = \frac{2nmD(\beta-1)}{(n+E)}$$

$$E = \sqrt{n^2 - 1 + n^2} - n$$

$$\gamma = \arccos \frac{-ml}{\sqrt{m^2 + n^2} \sqrt{l^2 + n^2}}$$

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where,

Y1: the distance perpendicular to both of the  
longitudinal direction and the thickness direction  
of one reflection film of the stripe reflection  
films,

Y2: the distance between the films of the stripe  
reflection films.

$\gamma$ : the angle between the longitudinal direction of  
one reflection film of the stripe reflection films  
and the boundary line between the reflection film  
and the remaining region,

D: the thickness of the glass plate, and

$n^*$ : the refractive index of the parallel glass  
plate.